

California M E D I C I N E

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

©1955, by the California Medical Association

Volume 82

JANUARY 1955

Number 1

Abnormal Hemoglobins

Clinical Disorders Resulting from Various Combinations

JOHN S. LAWRENCE, M.D., and
WILLIAM N. VALENTINE, M.D., Los Angeles

THE CLEAR-CUT DEMONSTRATION by Pauling and co-workers⁶ in 1949 of the presence of hemoglobin, electrophoretically different from normal, in subjects with sickle cell trait or disease served to stimulate tremendous interest in human hemoglobin. Until then, fetal and adult hemoglobins constituted the only known varieties of human hemoglobin. Von Körber⁴ in 1866 and Von Krüger⁵ in 1877 established the fact that fetal hemoglobin in an alkaline medium was much more resistant to denaturation than adult hemoglobin. In 1951, Singer, Chernoff and Singer¹² reported data that established the presence of fetal hemoglobin in a number of different kinds of anemia. It was postulated that "the resistant hemoglobin fractions in these disorders represent either a continuation or a reactivation of the production of the embryonic pigment." Thus, fetal hemoglobin is not, in fact, an inherited abnormal hemoglobin. Its presence would seem to be best explained by reversion to a normal embryonic process.

However, following the demonstration of an abnormal hemoglobin associated with the sickling phenomenon, two additional hereditary abnormal types of hemoglobin were reported.^{1, 2} These abnormal hemoglobins have been designated as hemoglobin C

• Within the past few years it has been noted that abnormal types of hemoglobin found in certain persons are associated with definite clinical disorders. At least four different varieties of sickle cell anemia are now recognized, three of them being heterozygous and one homozygous. When the gene for sickling is represented once, the person is asymptomatic and is said to have "sickle cell trait." However, when the sickle cell trait is present in combination with certain other hemoglobin abnormalities such as hemoglobin C or D or with thalassemia trait, symptomatic clinical disease results. The homozygous condition, in which two genes for hemoglobin C are present in the same person, has been observed in a few instances. A similar condition as regards hemoglobin D has not as yet been recognized.

and hemoglobin D. Thus, at present there are five recognized types of hemoglobin in humans, namely, normal (A), fetal (F), sickle cell (S), C, and D. Table 1 gives the principal known facts about these various types of hemoglobin. Hemoglobins A, C and S are readily distinguished electrophoretically from one another, S occupying an intermediate position as regards mobility between A and C. On the other hand, hemoglobin D exhibits the same electropho-

From the Department of Medicine, School of Medicine, University of California Medical Center and Sawtelle Veterans Administration Hospital, Los Angeles.

Presented before the Section on General Medicine at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

EDITORIAL

Allergy Skin Testing

THE SKIN TEST has been a most important functionary in the evolution of the subject of allergy. Since the development of the scratch and intracutaneous tests as diagnostic procedures in hereditary forms of hypersensitivity, allergists have come to appreciate their importance and their limitations. The skin test is, at best, a relatively crude diagnostic technique which, although simple to carry out, is subject to many pitfalls. Considerable experience is necessary for the appraisal of reactions obtained with it.

The scratch and the intracutaneous techniques are the methods most generally employed in testing for allergy of the hereditary type. The scratch test is performed by gently rubbing allergenic material into a superficial skin scratch. The intracutaneous test is done by introducing a previously calculated amount of allergen into the superficial layers of the skin. Both procedures have their limitations and advantages. The scratch technique is fairly simple and inexpensive and diminishes the likelihood of constitutional reactions that are liable to occur with careless and inexperienced use of the intracutaneous method. On the other hand the intracutaneous test is more sensitive than the scratch test and is, accordingly, a more effective diagnostic procedure. A decided advantage of the intracutaneous method is its adaptability and flexibility. The testing allergens may be varied in concentration to suit the need of each patient. The same materials used for testing may be employed also for desensitization treatment.

Many modifications of the scratch and the intracutaneous tests are being used. Some allergists recommend and employ the puncture test which is conducted by needle puncture through a drop of allergen. Others, as a variation of the scratch technique rotate the end of a fine narrow borer or screw driver

on the skin and then rub allergen into the slightly abraded area. Another method is to mix the allergen with a vehicle that readily penetrates the skin and then gently rub it in. Still another and more novel technique is the introduction of an allergen into the skin by electrophoresis. However, in all these procedures the same immunologic principles apply, and the various techniques have been derived simply to satisfy the particular needs and preferences of the investigator. Most clinicians concentrate on one technique, and perfect it to a point where it provides for them more information than would be obtained with the less skillful application of several methods.

Many factors, nonspecific and immunologic, contribute stumbling blocks to a neophyte in the interpretation of the clinical significance of cutaneous reactions: the skin reactivity of each person differs from that of others; the skin reactivity differs from place to place on the skin of each person; the skin reactivity fluctuates with age and may be suppressed in certain diseases; the skin reactivity is influenced by the concentration and amount of allergen employed; the cutaneous reaction may result from different immunologic mechanisms in the same person and vary in clinical significance; and the cutaneous reactions in different persons may be produced by the same immunologic mechanism but be of unequal importance.

In the hereditary group of allergic diseases the cutaneous reactions obtained by testing with allergens are almost always mediated by the skin-sensitizing antibody which is present in both blood and tissues. An outstanding feature of the skin-sensitizing antibody is its affinity for the skin and the mucous membranes. Passive sensitization of respiratory, gastrointestinal, and ophthalmic mucous membranes may be as easily accomplished as the passive sensitization of skin. There is, therefore, sound reason for cutaneous testing in allergic dis-

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Executive Committee Minutes

Tentative Draft: Minutes of the 245th Executive Committee Meeting, San Francisco, November 17, 1954.

The meeting was called to order by Chairman Heron in Room 214 of the St. Francis Hotel, San Francisco, at 4:30 p.m., Wednesday, November 17, 1954.

Roll Call:

Present were President Morrison, Council Chairman Lum, Speaker Charnock, Auditing Committee Chairman Heron, and, ex-officio, Secretary Daniels and Editor Wilbur. Absent for cause, President-elect Shipman.

A quorum present and acting.

Present by invitation during all or a part of the meeting were Messrs. Hunton, Thomas, Clancy and Gillette of C.M.A. staff; legal counsel Howard Hasard; Health Insurance Consultant Rollen Waterson; Drs. Dwight H. Murray, James C. Doyle and Dan O. Kilroy, members of the Committee on Public Policy and Legislation; Messrs. Ben H. Read and Eugene Salisbury of the Public Health League of California; Dr. Murray Hunter Brown of Los Angeles County; Dr. Richard A. Young, medical consultant to the California State Department of Vocational Rehabilitation; William S. Smith, D.D.S., Robert O. Schraft, D.D.S., E. L. Hicok, D.D.S., and Messrs. Anthony J. Kennedy and John Rooks, representing the California State Dental Association.

1. A.M.A. Committee on Rural Health:

On motion duly made and seconded, it was voted to approve the recommendation of President Morrison that Dr. Henry A. Randel of Fresno be nominated for membership on the Council on Rural Health of the American Medical Association, to succeed the late Dr. J. Frank Doughty.

2. Rollen Waterson Associates:

(a) Mr. Waterson stressed the need to develop

adequate health insurance coverage for individual subscribers, to meet competition and to lead the way in this field.

On motion duly made and seconded, it was voted to urge strongly to the Board of Trustees that it use all possible efforts to develop and improve its individual membership coverage so as to make it more highly acceptable to the public.

(b) Mr. Waterson reported the findings of a spot survey to determine the number of members of closed-panel groups who sought medical care from their personal physicians at their own expense. He also reported that a pilot study of public opinion of the medical profession was under way.

(c) A budget covering the final calendar quarter of 1954, totaling \$15,323, was approved, with the provision that \$2,000 additional be allowed for producing and distributing tape recordings for playing before hospital staffs throughout the state.

3. University Programs:

Dr. Murray Hunter Brown of Los Angeles County presented information on programs being undertaken by a state university through some of its departments and it was agreed that members of the

ARLO A. MORRISON	President
SIDNEY J. SHIPMAN, M.D.	President-Elect
DONALD A. CHARNOCK, M.D.	Speaker
WILBUR BAILEY, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Council Chairman
ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
JOHN HUNTON	Executive Secretary
General Office, 450 Sutter Street, San Francisco 8	
ED CLANCY	Director of Public Relations
Southern California Office:	
417 South Hill Street, Los Angeles 13 • Phone MAdison 6-0683	

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, May 1-4, 1955, in San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

**ALL RESERVATIONS MUST BE
RECEIVED BEFORE: APRIL 15, 1955**

NOTE: The House of Delegates will convene at the Sheraton-Palace Hotel; all scientific sessions and exhibits will be at the Civic Auditorium.

Eighty-fourth Annual Session CALIFORNIA MEDICAL ASSOCIATION

**San Francisco, California
MAY 1-4, 1955**

HOTEL ROOM RATES*

	Single	Double	Twin Beds	Suites
SHERATON-PALACE HOTEL Market and New Montgomery	7.50-15.00	10.00-17.50	10.50-18.00	19.00-65.00
ST. FRANCIS HOTEL Powell and Geary	9.00-20.00	11.00-16.00	13.00-22.00	24.00-40.00
SIR FRANCIS DRAKE HOTEL Powell and Sutter	8.50-14.00	10.50-16.50	13.00-19.50	25.00-36.00
CLIFT HOTEL Geary and Taylor	10.00-15.00	10.00-18.00	13.00-18.00	18.00-35.00
PLAZA HOTEL †..... Post and Stockton †Deposit required	6.00-7.00	9.00-10.00
STEWART HOTEL Geary and Powell	4.50-8.00	6.50-10.00	7.00-12.00	12.00-17.00
WHITCOMB HOTEL Market and Eighth	5.00-9.00	7.00-11.00	8.00-12.00	18.00-25.00
ALEXANDER HAMILTON O'Farrell and Hyde	6.00-11.00	8.00-13.50	8.50-14.00	12.00-30.00

*The above quoted rates are existing rates but are subject to any change which may be made in the future

CALIFORNIA MEDICAL ASSOCIATION

450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 84th Annual Session of the California Medical Association, in San Francisco, May 1-4, 1955.

Single Room..... Double Bedded Room..... Twin Bedded Room.....
Small Suite..... Large Suite..... Other Type of Room.....
First Choice Hotel..... Second Choice Hotel.....

ARRIVING AT HOTEL (date)..... Hour:..... A.M..... P.M. { Hotel reservations will be held until
Leaving (date)..... Hour:..... A.M..... P.M. { 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each double room or twin bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

(Individual Requesting Reservations—Please print or type)

Name..... County.....
Address..... City and State.....

correct chronic anemia

Unexplained weakness, easy fatigability, pallor, palpitation, and dyspnea on exertion ordinarily are the tell-tale signs of a chronic anemia in women during the third to fifth decades.¹

1. Rath, C. E.: *M. Clin. North America* 34: 1779, 1950.

armatinic®
activated

When you prescribe Armatinic Activated you give exceptionally effective potencies of all hem-atopoietic factors which combat both macrocytic and microcytic anemias.

Each Armatinic Activated Capsulette contains:

Ferrous Sulfate	
Exsiccated.....	200 mg.
Vitamin B ₁₂	10 mcg.
Folic Acid.....	1 mg.
Vitamin C.....	50 mg.
Liver Fraction 2 N.F.	
with Duodenum	
(contains Intrinsic	
Factor).....	350 mg.

Average adult dose: 3 capsulettes daily. Bottles of 100 and 1000.



THE ARMOUR LABORATORIES
A DIVISION OF ARMOUR AND COMPANY
CHICAGO 90, ILLINOIS

Some Patients Don't Want to Be Reassured

Sometimes the worst thing a doctor can do is to tell a patient he's perfectly well, a University of Virginia School of Medicine physician says.

Dr. Andrew D. Hart, Charlottesville, Va., stated some patients don't really want to be reassured. These are the patients with "cardiac neurosis," which may cause real symptoms of heart disease but may only be a substitute or cover-up for greater problems—such as tension and nervousness or fear of mental illness.

He said this type of patient visits the doctor with complaints of heart symptoms and is told firmly and reassuringly that he has no heart defect. The patient may then go to another—or more than one—doctor seeking another diagnosis. He may quote the first doctor as having said such things as "You have six months to live" or "I've never seen a worse heart than yours." The patient actually may believe this was what the doctor said—since even normal memory is far from accurate, and nothing is so helpful to recollection to people who "dearly" need to believe something, Dr. Hart said.

Further reassurance does not help, he said. The patient appears to be pleased with good news, but gives himself away with such statements as "It's just got to be physical or it must be mental." He might admit he would be "greatly relieved" if anything tangible could be found, Dr. Hart said in a recent issue of the *Journal of the American Medical Association*.

The behavior of such patients suggests that the anxiety about their hearts is necessary to them. A tangible organic defect serves as a "lesser-evil" defense against greater, undisclosed fears.

"Most of these persons have been inwardly tense and high strung as far back as they can remember," he said. "Nearly all admit to excessive nervousness and worry. . . . Sometimes an insidious emotional depression has led to a stifling, 'heavy heart' sensation that is nonetheless real because it is impossible to describe."

He said unrest, undermining of self-confidence, feelings of unreality, and dread of mental disease often result in a person's conviction that he has heart disease, and he becomes preoccupied with this notion. At this stage, a firm statement that there is no heart disease only makes the patient discontented. He doesn't know how to explain his feelings in the face of an excellent physical report.

Rather than an outright statement of good condition in such cases, Dr. Hart suggested that physicians should avoid a firm diagnosis and work for a closer relationship with the patient to find out what his deeper problem is. Some patients then will respond to treatment aimed at turning their energy and talents away from their concern about disease and toward outside interests and activities.